

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P05865PC00		FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE 2002/000618	International filing date (day/month/year) 28-03-2002	Priority date (day/month/year) --	
International Patent Classification (IPC) or national classification and IPC H04L 12/56, H04L 29/06			
Applicant Operax AB et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 29-08-2003	Date of completion of this report 12-05-2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Anders Edlund /LR Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2002/000618

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 14 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 1 - 3 _____ received by this Authority on 30-03-2004
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages 1 - 5 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-20</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-20</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-20</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: US 2001032262 A1

D2: EP 0843501 A2

D3: Schelén, O. et al.: "Performance of QoS Agents for Provisioning Network Resources". In: Proceedings of IWQoS'99, London, 31 May-4 June 1999. Pages 17-26. ISBN 0-7803-5671-3

D4: WO 02056564 A1

D5: WO 0221797 A1

D1 relates to quality of service control in networks, and more specifically, to providing a certain level of quality of service in a network which includes both wireless and wire line infrastructure through reservation of resources

D2 relates generally to communication networks, and more specifically to the allocation of resources between book-ahead and instantaneous-request calls in an integrated-services network, (see abstract).

D3-D5 is state of the art documents, and will therefore not be mentioned any further.

The object of the present invention is to solve the problems with reservation of resources for immediate and future use in a network.

Claims 1 and 13:

In document D2, which is considered to represent the most relevant document, it is known to be able to book-ahead resources in a network. It is also possible to extend the holding time after the original stop-time has expired, see

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

page 3 lines 6-28.

From document D2, see paragraph 8, it is known to reserve resources in advance with help of a bandwidth broker (resource manager).

However, the cited documents represent the general state of the art.

The invention defined in claims 1-20 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed method and resource manager, where an individual start- and stop-time are set for each application by an application client.

Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-20 is novel and is considered to involve an inventive step. The invention is industrially applicable.

DT04 Rec'd PCT/PTO 2 8 SEP 2004

Claims

1. A method for reserving network resources within an IP network, wherein the resources are reserved by a resource manager for an application or a group of applications within a time interval defined by a start-time and a stop-time, **characterised** in that the method comprises the step of:
-*guaranteeing* said resources between said start-time and said stop-time, and
-*keeping* said resources for the application after said stop-time has expired if said application still needs resources, wherein the resource manager is keeping a list of active reservations that have expired after said stop-time.
2. Method according to claim 1, **characterised** in that all resource reservations are utilising a common pool of resources.
3. Method according to claim 1, **characterised** in that individual start- and stop-time are set for each application by an application client.
4. Method according to claim 1, **characterised** in that individual start- and stop-time are set for each application by the resource manager.
5. Method according to claim 1, **characterised** in that said start-time is set to the current time.
6. Method according to claim 5, **characterised** in that said stop-time is set to the current time.
7. Method according to any of claims 1 and 5, **characterised** in that said stop-time is set to infinity.
8. Method according to claim 1, **characterised** in that charging of said resources is based on the amount of guaranteed resources.
9. Method according to claim 1, **characterised** in that said resources are related to the bandwidth.

10. A computer program product directly loadable into an internal memory of a router or a server within an IP network comprising the software code portions for performing the steps of claims 1-9.
- 5
11. A computer program product stored on a computer usable medium, comprising readable program for causing a resource manager in a server or a router within an IP network to control the execution of the steps of claims 1-9.
- 10
12. A resource manager for reserving network resources within an IP network, wherein said resource manager comprises means for reserving resources for an application or a group of applications within a time interval defined by a start-time and a stop-time, **characterised** in that
- 15
- said resource manager comprises means for guaranteeing said resources between said start-time and said stop-time, and means for keeping said resources for the application after said stop-time has expired if said application still needs the resources wherein said resource manager comprises means for keeping a list of active reservations that have
- 20
- expired after said stop-time.
13. Resource manager according to claim 12, **characterised** in that all resource reservations are utilising a common pool of resources.
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14. Resource manager according to claim 12, **characterised** in that said resource manager comprises means for allowing the each application client to set individual start- and stop-time for said application.
15. Resource manager according to claim 12, **characterised** in that said
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- resource manager comprises means for setting individual start- and stop-time for each application.
16. Resource manager according to claim 12, **characterised** in that said resource manager comprises means for setting said start-time to the
- 35
- current time.

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17. Resource manager according to claim 16, **characterised** in that said resource manager comprises means for setting said stop-time to the current time.
- 5 18. Resource manager according to any of claims 12 and 16, **characterised** in that said resource manager comprises means for setting said stop-time to infinity.
- 10 19. Resource manager according to claim 12, **characterised** in that said resource manager comprising means for basing the charging of said resources on the amount of guaranteed resources.
- 15 20. Resource manager according to claim 12, **characterised** in that said resources are related to the bandwidth.

Best Available Copy

AMENDED SHEET